view in FIG. 10 and cross section view in FIG. 11, respectively) are supported by a metal holder 164 (FIG. 11).--

Please replace the paragraph beginning page 12, line 26 as follows:

-- This invention encompasses reflective coplanar waveguide phase shifters as well as transmission coplanar waveguide phase shifters. Reflective coplanar waveguide phase shifter constructed in accordance with the invention can operate at 20 GHz. Transmission coplanar waveguide phase shifters constructed in accordance with the invention can operate at 20 GHz and 30 GHz. Both types of phase shifters can be fabricated using the same substrate with a tunable dielectric film on the low dielectric loss substrate. A ground plane DC bias and DC block are used. The bias configuration is easy to manufacture, and is not sensitive to small dimensional variations. The phase shifters can have ports with either coplanar waveguide or microstrip lines. For microstrip ports, a direct transformation of the coplanar waveguide to a microstrip is possible. The bandwidth of phase shifters in the present invention is determined by matching sections (impedance transformer sections). The use of more matching sections or longer tapered matching sections permits operation over a wider bandwidth. However, it results in more insertion loss of the phase shifters.--

IN THE CLAIMS

Please amend the claims to read as follows:

1. (Currently Amended) A phase shifter comprising:

a substrate;

a tunable dielectric film having a dielectric constant between 70 to 600, a tuning range of 20 to 60 %, and a loss tangent between 0.008 to 0.03 at K and Ka bands, the tunable dielectric film being positioned on a surface of the substrate;

a coplanar waveguide positioned on a surface of the tunable dielectric film opposite the substrate;

an input for coupling a radio frequency signal to the conductive strip;

an output for receiving the radio frequency signal from the conductive strip;

a connection for applying a control voltage to the tunable dielectric film, ~~wherein the connection for applying a control voltage to the tunable dielectric film~~ wherein the coplanar waveguide comprises:

a first electrode position adjacent a first side of said conductive strip to provide a first gap between the first electrode and the conductive strip; and

a second electrode position adjacent a second side of said conductive strip to provide a second gap between the second electrode and the conductive strip; and

a conductive dome electrically connected between the first and second electrodes.

2. (Original) A phase shifter according to claim 1, wherein the high dielectric constant voltage tunable dielectric film comprises a barium strontium titanate composite.

3. (Original) A phase shifter according to claim 1, further comprising:

a first impedance matching section of said coplanar waveguide coupled to said input; and

a second impedance matching section of said coplanar waveguide coupled to said output.

4. (Original) A phase shifter according to claim 3, wherein the first impedance matching section comprises a first tapered coplanar waveguide section; and

wherein the second impedance matching section comprises a second tapered coplanar waveguide section.

5. (Previously Amended) A phase shifter according to claim 1, further comprising:

a third electrode position adjacent a first side of said first electrode opposite said conductive strip to provide a third gap between the first electrode and the third electrode; and

a fourth electrode position adjacent a first side of said second electrode opposite said conductive strip to provide a fourth gap between the second electrode and the fourth electrode.

6. (Currently Amended) A phase shifter according to claim 1, wherein the substrate comprises one of:

MgO, $LaAlO_3$~~3~~, sapphire, $A12O_3$~~3~~, and a ceramic.

7. (Original) A phase shifter according to claim 1, wherein the substrate has a dielectric constant of less than 25.

8. (Original) A phase shifter according to claim 1, wherein the tunable dielectric film has a dielectric constant of greater than 300.

9. (Original) A phase shifter according to claim 1, further comprising:

a conductive housing covering the phase shifter.

10. (Currently amended) A phase shifter according to claim 1, wherein the tunable dielectric is selected from the group consisting of:

barium strontium titanate (Ba_xSr_{1-x}~~1-x~~TiO_3~~3~~, BSTO, where x is less than 1), BSTO-MgO, BSTO-$MgAl_2$~~2~~O_4[4], BSTO-$CaTiO_3$~~3~~, BSTO-$MgTiO_3$~~3~~, and BSTO-$MgSrZrTiO_6$~~6~~.